

IN THE CLAIMS:

Please cancel claims 1-2, 4, 8-13 and 16-22 without prejudice or disclaimer, amend claims 3, 5-7, and 14-15, and add a new claim 23 as follows:

1-2. (Cancelled)

3. (Currently Amended) A method ~~as claimed in Claim 1, characterized by for displaying a gene expression phenomenon in one or more living organisms in a system comprising memorizing means that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said memorizing means to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:~~
- ~~displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;~~
- ~~setting a viewpoint on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;~~
- ~~reading the gene expression data of said cell or site of said living organisms out of said memorizing means, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and~~
- ~~chronologically displaying a change in shape of [[a]] said cell or site of the living matter said living organisms caused by an external stimulation [[or]] and a change in shape of a cell or site caused by the living internal activities of its own; and displaying [[as]] an animation ~~a change~~ of a three-dimensional image representing [[an]] the gene expression phenomenon from a certain viewpoint at a certain instant of time.~~

4. (Cancelled)
5. (Currently Amended) A method ~~as claimed in Claim 4, characterized by for displaying a gene expression phenomenon in one or more living organisms in a system comprising memorizing means that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said memorizing means to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:~~

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said memorizing means, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon;

displaying in parallel three-dimensional images representing expression phenomena for each cell or site of said living organisms of multiple species; and

comparing the three-dimensional images representing the gene expression phenomena for each cell or site of two or more living matters said living organisms of multiple species to visually display similarities therebetween in a predetermined display format.
6. (Currently Amended) A method ~~as claimed in Claim 1, characterized by for displaying a gene expression phenomenon in one or more living organisms in a~~

system comprising memorizing means that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said memorizing means to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said memorizing means, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

mapping [[an]] said expression data of [[a]] said cell or site along a time axis to be displayed in one color or multiple colors in various scales depending on a gene expression frequency in said cell or site observed on coordination points in a color space of the three primary colors which is based on a data value thereof to display it as color information corresponding to the individual coordination points.

7. (Currently Amended) A method as claimed in Claim 1, characterized by for displaying a gene expression phenomenon in one or more living organisms in a system comprising memorizing means that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that

are memorized in said memorizing means to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said memorizing means, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

mapping expression data of two or more cells or sites on coordination points along an axis in a color space of the three primary colors which is based on data values thereof to display them in one color or multiple colors in various scales a change in gene expression frequency in said cells or sites in parallel as color information corresponding to the individual coordination points.

8-13. (Cancelled)

14. (Currently Amended) A method as claimed in Claim 1, characterized by for displaying a gene expression phenomenon in one or more living organisms in a system comprising memorizing means that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said memorizing means to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said memorizing means, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

coordinating and displaying, in a predetermined display format, a three-dimensional image of the expression phenomenon and a position of a gene on a gene map that causes the expression phenomenon.

15. (Currently Amended) A method ~~as claimed in Claim 1, characterized by for displaying a gene expression phenomenon in one or more living organisms in a system comprising memorizing means that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said memorizing means to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:~~

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said memorizing means, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple

colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

coordinating and displaying, in a predetermined display format, three-dimensional images of the expression phenomenon of a gene in two or more cells or sites and a position of [[a]] the gene on a gene map that causes the expression phenomenon.

16-22. (Cancelled)

23. (New) A method for displaying a gene expression phenomenon in one or more living organisms in a system comprising memorizing means that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said memorizing means to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said memorizing means, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

mapping expression data of a cell or a site of a plurality of genes of one living organism on coordination points on a cylindrical plane, said expression data

of each of the plurality of genes being shown as a bar with a height corresponding to a degree of one respect gene expression phenomenon.